

# Reduced prevalence of metabolic acidosis at birth: an analysis of established STAN usage in the total population of deliveries in a Swedish district hospital.

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**OBJECTIVE:** The purpose of this study was to investigate quality-of-care improvements after the introduction of ST waveform analysis as an adjunct to standard cardiotocography (CTG).

**STUDY DESIGN:** This was a prospective clinical study that was conducted over 7 years. Four yearly cohorts of 12,832 term pregnancies were part of a detailed analysis. Cord blood metabolic acidosis and neonatal outcome were main outcome measures.

**RESULTS:** The STAN (S31 Fetal Heart Monitor; Neovanta Medical AB, Mölndal, Sweden) usage rate increased from 26 to 69%. The cord metabolic acidosis rate was reduced from 0.72 to 0.06%. This 91.7% improvement was associated with a significant reduction in the number of cases with a prolonged response time, calculated as the time from CTG + ST indications to intervene until delivery and an ability of the staff to identify and act on preterminal and unstable fetal heart rate patterns at the onset of a recording.

**CONCLUSION:** Our data indicate a paradigm shift in the outcome of delivery related to a high rate of CTG + ST usage and the application of structured CTG analysis.